

Recent books on the amphibians of Europe

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Birgit GOLLMANN & Günter GOLLMANN. – *Die Gelbbauchunke: von der Suhle zur Radspur*. Bielefeld, Laurenti Verlag, *Beiheft der Zeitschrift für Feldherpetologie*, 4, 2002: 1-135, 35 figures and 4 tables. Softbound. ISBN 3-933066-10-7.

Andrea AMBROGIO & Luca GILLI. – *Il tritone alpestre. Tassonomia. Distribuzione. Sviluppo. Ecologia. Etologia. Protezione*. Caviago, Planorbis, 1998: 1-64. Softbound.

In the series of monographies on European amphibians, a book on the yellow-bellied toad, *Bombina variegata* (Linnaeus, 1758) was missing. This species seems to be particularly endangered and many populations have disappeared in the last decades. A summary of our knowledge on these toads should be an important aid for conservation biologists and environmentalists.

The book by Birgit & Günter GOLLMANN is written in German language. It is original in adding to the known data from the literature many new and unpublished observations. The review is clearly documented by references and accompanied by many figures. Specimens and habitats are presented in colour photos.

The phylogeny, taxonomy and systematics are reviewed shortly. Data on size variation and colour variation try to describe the large differentiation between populations and subspecies, whose phylogenetic relationships have been investigated by various methods. The phenomenon of hybridization with the sister taxon *Bombina bombina* (Linnaeus, 1761) is shortly presented.

Habitat of the species includes breeding places, hibernation and aestivation areas. *B. variegata* shows a large scale of breeding environments which include secondary habitats as road ditches and lairs, but many other kinds of small water bodies. Not much is known on aestivation and hibernation places.

Yellow-bellied toads are then presented as predators and victims, giving lists of prey and predators but also treating the behaviour of the toads. A nice description tries to elucidate form and function of the "Unkenreflex". *B. variegata* shows annual and diurnal activity cycles, in particular in the presence of different life stages in the habitat, and in relation to reproduction. Like in most anurans the bulk of data available concerns reproduction: place and date, regulation, mating call – or advertisement call as it should better be named –, amplexus, egg laying. It is particularly difficult to obtain simple data like clutch size in these toads, as they lay eggs in several patches. Observations of multiple breeding were made both in males and females. Embryonic and larval development are described, providing data on morphology, nutrition, influence of temperature and density, as well as results from competition experiments. Finally various aspects of metamorphosis are discussed to conclude the description of the life cycle.

An interesting part of the book presents the spatial distribution of the toads. Based on observations of individual toads – recognised thanks to the particular ventral pattern which is unique and remains rather constant throughout the life of a toad –, observations of migration, choice of mating places, immigration in new habitats, periods spent on breeding ponds and fidelity to a certain place are given. This raises the question of spatial orientation on which no recent investigations have been made.

Another question concerns longevity, and we learn that individuals of more than 15 years have been observed in the wild, and that these toads may reach 29 years in captivity. Sexual and age composition of toad populations are presented and variations between the populations are discussed. Population dynamics of different life history stages show major differences, the early stages being particularly affected by loss.

A chapter on conservation discusses legal situations of protection of the toads, and causes of threats. The use of land by man leading to the loss of wetlands is mentioned as a major factor. Isolation of suitable habitats, introduction of fish and also pollution might be factors for regression of this species. The authors claim actions for habitat protection and management in order to protect the yellow-bellied toad. Introduction of alien specimens in populations should be avoided because it leads to genetic pollution.

In a final chapter, the methodology of study is presented in order to encourage the reader to study these interesting animals. This is a basic book, interesting for the herpetologist and the conservationist, who look for precise data on *Bombina variegata*, and in particular for the student, as it stimulates observation and study of these nice and secretive animals.



Andrea AMBROGIO and Luca GILLI published a nice booklet on the Alpine newt, *Triturus alpestris* (Laurenti, 1768). It is a well done, pleasantly presented book, reflecting the famous Italian sense of taste. Color photos and figures are of high quality. The pencil sketches recall the notebook of a naturalist. All details of the book are thoroughly drawn, like the small figures on right top of the right pages that illustrates ontogenetical development of the newt.

The authors present the species by an introduction to its taxonomy and systematics, giving description of external morphology of the Italian subspecies. Then the geographical and altitudinal distributions of these subspecies are shown and discussed. The chapter on the habitat is documented by numerous photos representing as well the ponds and landscapes as the underwater biotopes where the newts live.

In a large chapter on eco-ethology, the feeding behavior of adults and larvae is presented in its different aspects, such as annual variation, nutrition in water and on land, nutrition of adults and larvae, composition of diet, but also predation of newts. Another aspect shown is the life history and population structure of Alpine newts. This chapter is completed by the presentation of the amphibian species syntopic with this newt and their daily activity patterns.

The reproduction of *Triturus alpestris* is introduced in a well-documented part. Many color photos illustrate the descriptions of the breeding behavior showing the male-female interactions. The whole sequence is then summarized and presented in color drawings. A figure explaining the particular terms of the behavior shows small sketches of the movements and their names. The chapter finishes with the description of the egg-laying behavior of the female.

Then the book follows the life history of the newt in presenting a chapter on the development, growth and metamorphosis. Beside normal development and its parameters, the particular case of neoteny or pedomorphosis is described. A clear scheme depicts the live cycle of *Triturus alpestris*.

The book finishes on an important aspect, the conservation of the Alpine newt giving the protection status of the Italian populations. The content of the book is thoroughly documented by the relevant literature, so that the reader can find original publications concerning all subjects.

In summary the book is an interesting presentation of this species, in particular for the Italian peninsula. It is written in Italian, but the rich illustrations make it attractive for all herpetologists. It seems to be the first booklet of a series from this editor and a second on the fire-bellied toads of the genus *Bombina* is announced.

